



MARINE 820 EPOXY LAMINATING SYSTEMS

PRODUCT BULLETIN



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DESCRIPTION

The **Marine 820 Epoxy Laminating Systems** are 100% solids systems developed for the fabrication and repair of high performance composite structures. The **Marine 820 Epoxy Laminating Systems** consist of one resin and a selection of three separate hardeners to suit your building or repair needs. The resin and hardener combinations produce low viscosity mixtures with convenient volumetric mix ratios. In addition, the **Marine 820 Epoxy Laminating Systems** are specially formulated for standard wet lay-up or resin-infusion operations requiring the highest degree of fabric wetting and air release attributes. The systems are specifically engineered to promote a high fiber-to-resin ratio and a greater interface with composite fabric(s), thereby resulting in lighter, stronger parts offering lower maintenance and long-term performance.

BENEFITS

- High Fiber-to-Resin Ratio
- 100% Solids-No Solvents
- Use in Wet Lay-up, Vacuum Bagging, Resin Infusion Operations
- Specifically Formulated For Use With E-Glass, S-Glass, Kevlar and Graphite Fabrics
- Above or Below Water Line Applications
- Produce Lighter and Stronger Parts
- Complete Wet Out and Air Release
- Save money-Less Resin Usage
- UV Stabilized

The Marine 820 Epoxy Laminating Systems include Marine 820 Resin and your choice of Hardener:

Marine 820 Resin - Is a low viscosity resin specifically formulated for use with the following selection of hardeners to produce the highest quality laminating systems:

Work Life @ 77°F (25°C) (236 gram mass)

Marine 822 Hardener	30 minutes
Marine 823 Hardener	45 minutes
Marine 824 Hardener	60 minutes

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TYPICAL HANDLING CHARACTERISTICS @ 77°F (25°C)				
Test	Test Method	Marine 820 Resin / Marine 822 Hardener	Marine 820 Resin / Marine 823 Hardener	Marine 820 Resin / Marine 824 Hardener
Mix Ratio	By Weight	100R:18H	100R:18H	100R:18H
Mix Ratio	By Volume	5R:1H	5R:1H	5R:1H
Mixed Viscosity	Brookfield	650 cps	350 cps	425 cps
Pot Life (236 gram mass)	Minutes	25-30	40-45	50-60
Specific Gravity	g/cc	1.10	1.10	1.09
Demold Time	Hours	24	24	24
V.O.C.	g/L	0 g/L	0 g/L	0 g/L
Color		Pale Amber	Pale Amber	Pale Amber
Minimum Cure Schedule	Hours	24	24	24
Complete Cure Schedule	Days	7	7	7
Shelf Life / D.O.M.		2 years	2 years	2 years
Tensile Strength	ASTM D-638.946	25,514psi (174MPa)	24,700psi (170MPa)	45,000psi (310MPa)
*Tensile Elongation	ASTM D-638.946	2%	3%	2%
Tensile Modulus	ASTM D-638.946	1,950,000psi (13,445MPa)	1,930,000psi (13,307MPa)	3,000,000psi (20,684MPa)
Flexural Strength	ASTM D-790.92	26,250psi (181MPa)	28,522psi (197MPa)	45,000psi (310MPa)
Flexural Modulus	ASTM D-790.92	1,840,000psi (12,686MPa)	1,650,000psi (11,376Mpa)	2,200,000psi (15,168MPa)
*Compressive Strength	ASTM D-695.91	8,343psi (58MPa)	8,100psi (56Mpa)	8,400psi (58MPa)
*Compressive Modulus	ASTM D-695.91	170,280psi (1,174MPa)	154,240psi (1,064MPa)	160,000psi (1,103MPa)
*Impact Strength	ASTM D-256.93a	5.52 (in-lbf/in)	4.50 (in-lbf/in)	3.75 (in-lbf/in)
*HDT(@ 66psi)	ASTM D-648.82	180°F (82°C)	180°F (82°C)	161°F (72°C)
*Average Moisture Absorption	ASTM D-570.81	0.17%	0.21%	0.25%

* Physical testing conducted on neat resin only. *HDT testing conducted on neat resin samples post cured 4 hours at 150°F (66°C).

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